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The Staff of Data Processing Digest regularly searches through 59 computer publications and 123 trade and management publications for suitable material to digest each month. The complete list is included in this issue. During other months, only those publications with items digested in that issue are listed. However, the entire list may be requested at any time. For further information about articles abstracted from these periodicals, please contact the publishers listed here. We are not permitted to furnish reprints. Books reviewed in the Digest may be ordered from your technical book store or directly from the publisher of the book.

The Accountant, 151 Strand, London WC2, England
Accounting Review, Curtis Reed Plaza Menasha, WI 54952
Administrative Management, 51 Madison Ave., New York, NY 10010
ADP Newsletter, The Diebold Group, 430 Park Ave., New York, NY 10022
AEDS Journal, 1201 16th St., N.W. Washington, DC 20036
AEDS Monitor, 1201 16th St., N.W. Washington, DC 20036
American City, 757 Third Ave., New York, NY 10017
American County Government, 1001 Conn. Ave., N.W. Washington, DC 20036
American Gas Association Monthly, 1515 Wilson Blvd., Arlington, VA 22209
American Management Association, 135 W. 50th St., New York, NY 10020
American Scientist, 155 Whitney Ave., New Haven, CT 06510
Armed Forces Comptroller, Box 68, Arlington, VA 22210
The Arthur Young Journal, 277 Park Ave., New York, NY 10017
Australian Computer Journal, P.O. Box 150, Kingston, ACT 2604, Australia
Automation, Penton Building, Cleveland, OH 44113

Bank Administration, P.O. Box 500, Park Ridge, IL 60068
Bank Automation Newsletter, 89 Beach St., Boston, MA 02111
Bank Systems and Equipment, 1501 Broadway, New York, NY 10036
Banking, 350 Broadway, New York, NY 10013
Behavioral Science, Mental Health Research Institute, University of Michigan, Ann Arbor, MI 48104
Bell Journal of Economics, American T. & T., 195 Broadway, New York, NY 10007
Best's Review, Columbia Turnpike, Box 232, Rensselaer, NY 12144
Bulletin of TIMS, c/o Joseph E. Hoagbin, University of Michigan, Box 618, Ann Arbor, MI 48107
Burroughs Clearing House, P.O. Box 418, Detroit, MI 48232
Business Graphics, 7373 N. Lincoln Ave., Chicago, IL 60646
Business Horizons, Graduate School of Business, Indiana University, Bloomington, IN 47401

California Management Review, 2223 Fulton St., Berkeley, CA 94704
Canadian Chartered Accountant, 250 Bloor St., E., Toronto E, Ontario, Canada
Canadian DataSystems, 481 University Ave., Toronto 2, Ontario, Canada
Chain Store Age, Executive Edition, 2 Park Ave., New York, NY 10016
Cities and Villages, 60 E. Broad St., Columbus, OH 43215
The City, National Urban Coalition, 2100 M St. N.W., Washington, DC 20037
College and University Business, 230 W. Monroe St., Chicago, IL 60600
Columbia Journal of World Business, 408 Uris Hall, Columbia University, New York, NY 10027
Communications News, 402 W. Liberty Dr., Wheaton, IL 60187
Communications of Association for Computing Machinery (ACM), 1133 Ave. of the Americas, New York, NY 10036
Composition Information Services Newsletter, 6331 Hollywood Blvd., Los Angeles, CA 90028
Computer Age, 514 10th St. N.W., Washington, DC 20004
Computer Aided Design, IPC House, 32 High St., Guilford, Surrey, England
The Computer Bulletin, The British Computer Society, Ltd., 29 Portland Pl., London, W1N4AP, England
Computer Decisions, 50 Essex St., Rochelle Park, NJ 07662

Computer Design, Professional Building, 221 Baker Ave., W. Concord, MA 01781
The Computer Journal, The British Computer Society, Ltd., 29 Portland Pl., London, W1N4AP, England
Computer, IEEE, 8949 Reseda Blvd., #202, Northridge, CA 91324
Computer Weekley, Dorset House, Stamford St., London SE1, England
Computers and Automation, 815 Washington Street, Newtonville, MA 02160
Computers and the Humanities, Queens College, Flushing, NY 11367
Computerworld, 797 Washington St., Newton, MA 02160
Computing Newsletter, University of Colorado, Colorado Springs, CO 80907
Computing Report, IBM Corp., 112 East Post Rd., White Plains, NY 10601
Computing Reviews, 1133 Avenue of the Americas, New York, NY 10036
Computing Surveys, 1133 Ave. of the Americas, New York, NY 10036
Control and Instrumentation, 28 Essex St., Strand, London, WC2, England
Cost and Management, 154 Main Street, E., Hamilton, Ontario, Canada
Credit & Financial Management, 44 E. 23rd St., New York, NY 10010
Credit Union Executive, P.O. Box 431, Madison, WI 53701
Credit World, 375 Jackson Ave., St. Louis, MO 63130

Data Base, c/o ACM, 1133 Ave. of the Americas, New York, NY 10036
Data Management, 505 Busse Hwy., Park Ridge, IL 60068
Data Processing in New Zealand, C.P.O. Box 1614, Auckland, NZ
Data Processing Magazine, 134 N. 13th St., Philadelphia, PA 19107
Data Processor, 112 East Post Road, White Plains, NY 10601
Data Systems, Mercury House, 103-119 Waterloo Road, London SE1, England
Datamation, 94 S. Los Robles Ave., Pasadena, CA 91101
Dataweek, Mercury House, Waterloo Rd., London SE1, England
Department Store Management, 10 E. 40th St., New York, NY 10016
Dun's Review, P.O. Box 3088, Grand Central Station, New York, NY 10017

Editor & Publisher, 850 Third Ave., New York, NY 10022
EDP Analyzer, 925 Anza Ave., Vista, CA 92083
EDP Europa Report, IDC Europa Ltd., 59 Grays Inn Rd., London WC1X8TL, England
EDP Industry Report, 60 Austin St., Newtonville, MA 02160

The Federal Accountant, 727 S. 23rd St., Arlington, VA 22202
Finance, P.O. Box G, Lenox Hill Sta., New York, NY 10021
Finance and Development, 19th and H St. N.W., Washington, DC 20431
Financial Executive, 50 W. 44th St., New York, NY 10036
Folio, P.O. Box 696, New Canaan, CT 06840
Forbes, 60 Fifth Ave., New York, NY 10011

General Electric R & D Review, P.O. Box 8, Schenectady, NY 12305
Government Data Systems, 200 Madison Ave., New York, NY 10016
Government Finance, 1313 E. 60th St., Chicago, IL 60637
Graphic Communications Weekly, 6331 Hollywood Blvd., Los Angeles, CA 90028

Harvard Business Review, Soldiers Field Station, Boston, MA 02163
Honeywell Computer Journal, 60 Walnut St., Wellesley, MA 02181
Hospital Administration, 840 North Lake Shore Dr., Chicago, IL 60611
Hospital Forum, 4777 Sunset Blvd., Los Angeles, CA 90027
Hospitals, 840 N. Lake Shore Drive, Chicago, IL 60611

IBM Journal of Research and Development, Armonk, NY 10504
IBM Systems Journal, Armonk, NY 10504
Industrial Design, 18 E. 50th St., New York, NY 10022
Industrial Engineering, 345 E. 47th St., New York, NY 10017
Industrial Management, Mercury House, 103-119 Waterloo Rd., London SE1, England
Industrial Medicine and Surgery, P.O. Box 7151, Ft. Lauderdale, FL 33304
Industrial Research, Industrial Research Bldg., Beverly Shores, MD 46301
INFOR, P.O. Box 2225, Sta. D, Ottawa, Ontario, Canada
Information and Control, 111 Fifth Ave., New York, NY 10003
Information Retrieval & Library Automation, Lomond Systems, Inc., Mt. Airy, MD 21771
Infosystems, Hitchcock Bldg., Wheaton, IL 60187
Inland Printer/American Lithographer, 300 W. Adams St., Chicago, IL 60606
Instrumentation Technology, 400 Stanwix St., Pittsburgh, PA 15222

Instruments and Control Systems, One Decker Square, Bala-Cynwd, PA 19004
Intellectual Digest, 110 E. 59th St., New York, NY 10022
Interface, Xerox Data Systems, 701 S. Aviation Blvd., El Segundo, CA 90245
The Internal Auditor, 370 Wymore Rd., #245, Winter Park, FL 32789
International Computation Center Bulletin, Casella Postale N. 10053, zona del E.U.R., Rome, Italy
Interpreter, 1005 W. 39th St., Kansas City, MO 64111
Investments in Tomorrow, Stanford Research Institute, Menlo Park, CA 94025

Journal of American Society of Information Sciences, Suite 804, 1140 Connecticut Ave., N.W., Washington, DC 20036
Journal of Business, School of Business, University of Chicago, Chicago, IL 60637
Journal of Business Education, 15 South Franklin St., Wilkes-Barre, PA 18701
Journal of Data Education, 2-76 Union, Northfield, Vermont 05663
Journal of Documentation, 3 Belgrave Sq., London SW1, England
Journal of Educational Data Processing, P.O. Box 2995, Stanford, CA 94305
Journal of Marketing, American Marketing Association, 230 N. Michigan Ave., Chicago, IL 60601
Journal of Marketing Research, 230 N. Michigan Ave., Chicago, IL 60601
Journal of Micrographics, 8728 Colesville Rd., Suite 1101, Silver Spring, MD 20910
Journal of Purchasing, Harold Fearon College of Business Administration, Arizona State U., Tempe, AR 85281
Journal of Quality Technology, 161 W. Wisconsin Ave., Milwaukee, WI 53202
Journal of Systems Management, 24587 Bagley Rd., Cleveland, OH 44138
Jurimetrics Journal, 1155 E. 60th St., Chicago, IL 60637

Law and Computer Technology, 839-17th St. N.W., Hill Bldg., Washington, DC 20006

Management Accounting, 919 Third Ave., New York, NY 10022
Management Adviser, 666 Fifth Ave., New York, NY 10019
Management Controls, Peat, Marwick, Mitchell & Co., 345 Park Ave., New York, NY 10022
Management Informatics, Stadhouderskade 6, Amsterdam 13, Netherlands
Manufacturing Engineering and Management, 20501 Ford Rd., Dearborn, MI 48128

Micrographic Weekly, 6331 Hollywood Blvd., Los Angeles, CA 90028
Modern Data, 3 Lockland Ave., Framingham, MA 01701
Modern Hospital, 230 W. Monroe St., Chicago, IL 60606
Modern Materials Handling, 221 Columbus Ave., Boston, MA 02116
Modern Office Procedure, 614 W. Superior Ave., Cleveland, OH 44113
Modern Railroads, 5 S. Wabash Ave., Chicago, IL 60603

NBS Technical News Bulletin, Supt. of Documents, U.S. Gov't. Printing Office, Washington, DC 20402
NCC Interface, National Computing Centre, Quay House, Quay St., Manchester M3 3HU, England

Office Equipment & Methods, 481 University Ave., Toronto 2, Ontario, Canada
Office Products, Hitchcock Bldg., Wheaton, IL 60187
The Office, 1200 Summer St., Stamford, CT 06904
Optimum, Rm. 523, Tower A, Place de Ville, Ottawa 4, Ontario, Canada

Peripherals Weekly, 514 Tenth St., N.W., Washington, DC 20004
Personnel (AMA), 135 W. 50th St., New York, NY 10020
Personnel Journal, 100 Park Ave., Swarthmore, PA 19081
Physicians Management, 43 E. Ohio St., Chicago, IL 60611
The Practical Lawyer, American Law Institute, 4025 Chestnut St., Philadelphia, PA 19104
Price Waterhouse Review, 60 Broad St., New York, NY 10004
Production, Box 101, Bloomfield Hills, MI 48013
Program: News of Computers in Libraries, 3 Belgrave Sq., London SW1, England
Public Personnel Review, 1313 E. 60th St., Chicago, IL 60637
Public Power, 2600 Virginia Ave., N.W., Washington, DC 20037
Publishers' Weekly, 1180 Avenue of the Americas, New York, NY 10036
Purchasing, 205 E. 42nd St., New York, NY 10017

Quality Management and Engineering, Hitchcock, Publishing Co., Hitchcock Building, Wheaton, IL 60187
Quality Progress, 161 W. Wisconsin Ave., Milwaukee, WI 53203

Railway System Controls, 29 E. Madison St., Chicago, IL 60602
Records Management Journal, P.O. Box 14082, Washington, DC 20044

Sales Management, 630 Third Ave., New York, NY 10017
S.A.M. Advanced Management Journal, 1472 Broadway, New York, NY 10036
Savings and Loan News, 111 E. Wacker Dr., Chicago, IL 60601
School Progress, 481 University Ave., Toronto 2, Ontario, Canada
Science, 1515 Massachusetts Ave. N.W., Washington, DC 20005
Science and Technology, 114 Manhattan St., Stamford, CT 06902
Simulation, P.O. Box 2228, La Jolla, CA 92037
Sloan Management Review, Sloan School of Management, MIT, Cambridge, MA 02139
Software Practice and Experience, John Wiley & Sons Ltd., Baffins Lane, Chichester, England
Software World, 322 St. John St., London EC1, England
Soviet Cybernetics Review, The Rand Corp., 1700 Main St., Santa Monica, CA 90406
The Spectator, Chestnut and 56th St., Philadelphia, PA 19139
Sperry Rand Engineering Review, 1290 Ave. of the Americas, New York, NY 10019
Stores, 100 W. 31st Street, New York, NY 10001
Systems Technology & Science For Law Enforcement & Security, Lomond Systems, Inc., Mt. Airy, MD 21771

Technology Review, M.I.T., Rm. E19-430, Cambridge, MA 02139
Telecommunications, Horizon House, 610 Washington Street, Dedham, MA 02026
Thruput, Suite 1500, 2 Penn Plaza, New York, NY 10001
Time Sharing Newsletter, University City Science Center, Bldg. 1, 3401 Market St., Philadelphia, PA 19104
Tooling & Production, 13601 Euclid Ave., Cleveland, OH 44112
Traffic Engineering, 2029 K St. N.W., Washington, DC 20006
Traffic World, 815 Washington Bldg., Washington, DC 20005

U.S. News and World Report, 2300 North St. N.W., Washington, DC 20037
Urban and Social Change Review, Institute of Human Science, Boston College, Chestnut Hill, MA 02167

Visible Language, Cleveland Museum of Art, Cleveland, OH 44138